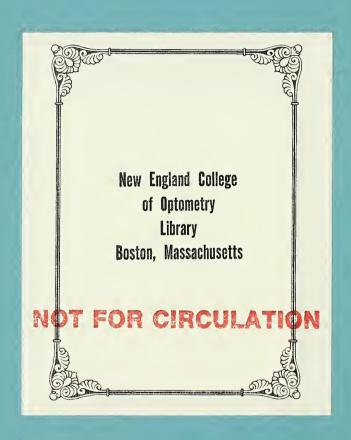
BULLETIN

OF THE

MASSACHUSETTS SCHOOL OF OPTOMETRY



BOSTON, MASSACHUSETTS



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OF THE

MASSACHUSETTS SCHOOL OF OPTOMETRY

BOSTON, MASSACHUSETTS

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GENERAL INFORMATION

OPTOMETRY, THE PROFESSION

Out of the ancient art of spectacle-fitting grew what is now well established as the science and profession of OPTOMETRY.

Long before that name was invented, men were adapting lenses to the correction of the simpler visual defects. They knew little if anything of anatomy or physiology, and less of pathology.

They were not looked upon as professional men nor as being in any way identified with the healing arts, but were held to be superior craftsmen of a sort skilled in the fitting of spectacles.

To them, vision was a matter of the laws of optics, and their function was to measure its range. This idea of the MEASUREMENT OF VISION was preserved in the word, OPTOMETRY, which came into use during the first decade of the present century, that being its literal meaning.

That OPTOMETRY is the profession dedicated to the preservation of human vision is amply proven by the history of its development to its present-day status. One of the first tasks of organized Optometry was to secure the enactment of the various Optometry Laws which are designed to safeguard the public from irresponsible and unqualified individuals and to insure that those desiring to practice Optometry should be adequately trained and prepared to serve the visual needs of the people. As a result of the enactment of such Laws the cause of the conservation of human vision has been greatly advanced.

(The status of Optometry is best told by Dr. E. E. Arrington in his "History of Optometry.")

We quote here briefly:-

"Optometry is not the practice of medicine in any of its branches or any spurious imitation of it. It did not spring from medicine nor is it allied with its history or traditions. It has a long and honorable ancestry of its own. * * * Its lineage does not lie through pathology and pharmacology, but through physics, mathematics and optics. Optometry is, in short, by its tradition and development a specialty in optical science, in that branch of it known as physiologic optics, giving optical service for the aid of vision in the healthy eye. * * * It has a distinctive and honorable prestige, in a branch of applied science all its own, where it is without rival, in which the Optometrist is as justly esteemed as the Dentist in Dentistry, the Chemist in Chemistry, the Lawyer in Law, or the Physician in Medicine."

In all walks of life the helpful influence of optometric service is felt. Everywhere workers are enabled, through Optometry, to extend their working life, to conserve their nervous energy, to prevent many serious disorders, in short, to "Be More Successful with Better Vision."

The word "OPTOMETRY" comes from the Greek, "opto" meaning "eye," and "metro" meaning "to measure." Its pronunciation is Op-tom-et-ry (like geometry).

Optometrists use and prescribe physical agencies such as lenses, prisms, ocular exercises, etc., for the purpose of correcting optical defects of the eyes, improving the balance of the ocular muscles, the removal of eye-strain, the relief of defective vision and the promotion of visual efficiency.

Optometry requires a knowledge of a variety of subjects which are not a part of medical training; Optometry is not taught in Medical Schools nor is it covered by the state examination of physicians. Optometry is taught in several universities and in independent Optometry Schools.

OPTOMETRY, DEFINED AND EXPLAINED

That Optometry, as a profession, has made unprecedented advancement and is now recognized as a specialized work requiring highly specialized training there can be no doubt. It offers to the qualified young person an opportunity to engage in a profession that promises a real career of service to humanity and one that is stimulating to the "science minded."

Every state in the Union, the District of Columbia, Canadian provinces and foreign countries recognize Optometry as a separate and distinct profession having laws which govern the licensing and practice of Optometrists.

The Massachusetts School of Optometry is a non-profit institution and was established as co-educational in 1894.

It is located in an educational center with excellent opportunities for clinical experience. The laboratories are supplied with modern equipment for teaching and research.

The course of instruction extends over four academic years, and is planned to emphasize the general training of the student for the practice of Optometry. The number of students in the various classes is limited in order to assure proper instruction and to permit a full utilization of facilities. While the work of the first year is largely scientific in character, a sufficient amount of clinical work is introduced to assure a continuity of interest.

LIBRARIES

Library facilities are ample, inasmuch as the students not only have access to the school library, but also to the Boston Medical Library and the Boston Public Library. The former is located one block from the school and the latter 8 minutes walk from the school. The Boston Medical Library is one of the largest of its kind in the United States, and students of this school may avail themselves of the opportunity for quiet study therein.

REQUIREMENTS FOR ADMISSION

Matriculant shall have completed a four-year course of at least sixteen units in an accredited high school or secondary school, or have the equivalent as determined by examination to be conducted by the authorized examiner of a standard college or university approved by the Council on Optometric Education or by a State Examination Board.

The subjects required as part of an accredited high school course are:

English	4	years
Algebra	1	year
Geometry	1	year
History	1	year
Laboratory Science		

Such further studies may be offered as will make up a total of sixteen units which are required for entrance.

All students desiring to enter are required to submit an application upon the form provided by the school.

This application must be accompanied by an application fee of \$5.00. Upon notification of acceptance the applicant is required to make a deposit of \$25.00 to insure a place in the class to which entrance is sought. This deposit is credited to the first semester's tuition upon the completion of matriculation.

ADVANCED STANDING

Advanced standing is granted to all applicants who have completed at least one year of study at an accredited university or college in the major subjects of the Freshman year. Such standing is likewise granted to applicants who have completed the necessary entrance requirements and have covered the Freshman subjects in an accredited Optometry institution.

Applicants for such advanced standing must demonstrate to the heads of departments in those courses for which they seek credit that their qualifications are satisfactory in every respect. In each instance a personal interview is necessary before final acceptance.

MARKING SYSTEM

The grade marks given are: A—Excellent; B—Good; C—Average; D—Lowest Passing; F—Failed.

A student is required to have an average of "C" for graduation. For purposes of computation, letter grades are converted into numerical equivalents and a factor system is used to determine the relative importance of each course, and to arrive at an average grade for the year. The mere attainment of passing grades does not insure advancement or continuation in the School.

Re-examination will be permitted for the removal of deficiencies only in those cases approved by the Dean. Such approved examinations are conducted during the week preceding the opening of the School in the Fall.

The right is reserved to dismiss a student at any time, or to refuse recommending him for advancement or graduation.

RULES AND REGULATIONS

It is the aim of this institution to develop in the individual student the sense of personal responsibility for good order and for respect of the rights of others, and to secure in the largest measure his co-operation with the Faculty and the Student Body in the development of his own character.

In the exercise of academic discipline, the students' conduct outside as well as inside the school will be taken into consideration.

The continuance in good standing of any student is dependent upon the satisfactory fulfillment of the rules and regulations of the School, as well as the observance of such moral standards as are deemed fitting for one preparing for the practice of Optometry.

TUITION AND OTHER FEES

Change in Cost of Fees Effective After June 1, 1940

The total cost of tuition, all laboratory fees, student fee, medical fee, school paper fee, and library fee, will be \$375.00 for each year. The graduation fee is included in the above for the fourth year.

These fees will affect all present and future members of the student body.

REFUNDS

The School assumes the obligation of carrying the student throughout the year.

Instruction and accommodations are provided on a yearly basis; therefore no refunds are granted except in cases where students are compelled to withdraw on account of personal illness.

No grades are issued until all financial obligations to the school are discharged.

The Directors of the School reserve the right to change tuition rates and to make additional charges for special features and services whenever in their discretion such action is deemed advisable.

A student who withdraws from the school for good and sufficient reasons may be reinstated subsequently, provided not too long a time has elapsed, and provided further that changes in the curriculum do not render such re-admission impracticable.

All entering students are required to have a complete physical examination under the direction of the School Physician.

CLINICAL FACILITIES

Ample opportunity is afforded for practical experience at the Massachusetts Optometric Clinic. Patients are referred by various charitable organizations and individuals. Clinics are also held at various places outside the regular clinic. Equipment and space is provided at the school clinic for taking care of a large number of patients daily.

STUDENT EQUIPMENT

In addition to proper text-books, all students are required to provide themselves with certain equipment. The cost of such equipment varies with the quality. Minimum cost for new text-books and new equipment for the four years is \$159.25. The minimum cost for each year is as follows: Freshman, \$27.75; Sophomore, \$68.00; Junior, \$63.50; Senior, no extra equipment required.

The latest editions of text-books are required.

For Freshmen Lee / 1/1

Publication, Gymnasium, and \$175.00 of the tuition charge are payable during the registration period in the first semester; the balance of the tuition charge (\$175.00) is payable on the first day of the second semester.

All other students pay the above charges with the exception of the Gymnasium Fee.

An additional charge will be made to students who have not paid their tuition, or who have not made satisfactory arrangements on or before the day set for the payment of tuition.

Graduation Fees are payable on or before May 1st.

The late registration fee of \$3.00 is charged to students who register after the specified registration dates.

Breakage occurring in the laboratory courses is charged to the student involved, or to the class as a group.

Special fees are not returnable in the event of a student severing his connection with the school.

Students are not permitted to attend classes until they have registered and have paid their tuition, or have made satisfactory arrangements with the Dean.

Students who are permitted to do partial work are charged on the basis of the amount of work undertaken.

CURRICULUM

FIRST YEAR

First Semester		SECOND SEMESTER	
Subject	Hours	Subject	Hours
General Anatomy	90	General Anatomy	90
Algebra	90	Algebra	90
Geometry	36	Geometry	36
Trigonometry	18	Trigonometry	18
Physics	54	Physics	54
Biology	36	Biology	36
Practical Optics	18	Practical Optics	18
Clinical Observation	36	Clinical Observation	36
Physical Education	36	Physical Education	36
Total	414	Total	414

SECOND YEAR

FIRST SEMESTER		SECOND SEMESTER	
Subject	Hours	Subject	Hours
Theoretic Optics	54	Theoretic Optics	54
Theoretic Optics Laboratory	36	Theoretic Optics Laboratory	36
Physiological Optics	54	Physiological Optics	54
Physiological Optics Laboratory	36	Physiological Optics Laboratory	36
Ocular Anatomy and Histology	72	Hygiene	36
Hygiene	36	General and Ocular Physiology	54
General and Ocular Physiology	54	General Pathology	36
General Pathology	36	Practical Optics	36
Practical Optics	36	Theoretic Optometry	36
Theoretic Optometry	36	Mechanical Optics Laboratory	36
Mechanical Optics Laboratory	36	Clinical Observation	36
Clinical Observation	36		
Total	522	Total	450

THIRD YEAR

First Semester		SECOND SEMESTER	
Subject	Hours	Subject	Hours
Physiological Optics	54	Physiological Optics	54
Physiological Optics Laboratory	36	Physiological Optics Laboratory	36
Theoretic Optics	54	Theoretic Optics	54
Theoretic Optics Laboratory	36	Theoretic Optics Laboratory	36
Practical Optics	36	Practical Optics	36
Theoretic Optometry	54	Theoretic Optometry	54
Practical Optometry	36	Practical Optometry	36
Ocular Pathology	36	Ocular Pathology	36
Clinical Practice	90	Clinical Practice	90
Mechanical Optics Laboratory	72	Mechanical Optics Laboratory	72
Total	504	Total	504

FOURTH YEAR

First Semester		SECOND SEMESTER	
Subject	Hours	Subject	Hours
Physical Optics	36	Neurology	36
Physical Optics Laboratory	36	Applied Anatomy	36
Physiological Optics	36	Physiological Optics	18
Ocular Pathology	36	Ocular Pathology	18
Practical Optics	36	Practical Optics	36
Clinical Conference	90	Clinical Conference	108
Mechanical Optics Laboratory	36	Mechanical Optics Laboratory	36
Clinical Practice	244	Clinical Practice	244
Theoretic Optometry	54	Theoretic Optometry	54
		Optometric Jurisprudence	18
Total	604	Total	604

OUTLINE OF COURSES

FIRST YEAR

Mathematics

ALGEBRA: Review of elementary algebra, after which the student is taught advanced algebra, especially those operations which are most useful in his work.

First Semester, 5 hours—Second Semester, 5 hours.

GEOMETRY: Review of elementary Geometry, after which the course includes those parts that are necessary in order to enable the student to understand the different problems in various phases of Optics.

First Semester, 2 hours—Second Semester, 2 hours.

TRIGONOMETRY: The course includes such topics as, Functions of multiple angles, Fundamental relations, Solution of oblique triangles, Inverse trigonometric functions and trigonometric equations.

First Semester, 1 hour—Second Semester, 1 hour.

GENERAL ANATOMY: Introduction. General outline of the following: Osteology, myology, arterial system, venous system, lymphatic system, organs of the thorax, organs of the abdomen, genito-urinary organs, various glands of the body, surface anatomy of various parts of the body, digestive apparatus, nervous system.

First Semester, 5 hours—Second Semester, 5 hours.

BIOLOGY: Introduction. The biological sciences. The cell. Embryology. Histology. Comparative anatomy. Genetics. Organic evolution adaptation. Evidences for organic evolution. Causes of organic evolution. Biology of Man.

PHYSICS: Introduction. Time. Space. Mass Motion. Measurements. Work and Energy. Kinetics. Attraction and Potential. Gravitation. Matter. Solids. Liquids. Gases. Heat. Sound. Ether Waves. Electricity and Magnetism.

First Semester, 3 hours—Second Semester, 3 hours.

PRACTICAL OPTICS: Introduction. The purpose of this course is to familiarize new students with the various types of ordinary lenses used in Optometric practice. It is given also with the intention of maintaining the student's interest. Lectures and Laboratory demonstrations. — Lenses: Definitions, types and terminology, Methods of numbering, Radii of curvature, Focal length, Dioptral power and formulae. Diagrams showing the path of rays through simple lenses. Addition of lenses. Ordinary forms of spherical lenses. Base curves. Simple cylinders. Ordinary axis notation. Compounds: Flat lenses, Method of placing B on cross, Method of finding B from cross. Determination of type of B by inspection.

First Semester, 1 hour-Second Semester, 1 hour.

CLINICAL OBSERVATION: The object of this course is to familiarize the Freshman with professional surroundings. He observes what takes place and when familiar with simple apparatus is assigned elementary phases of clinical work.

First Semester, 2 hours—Second Semester, 2 hours.

PHYSICAL EDUCATION: All Freshmen, unless excused by a physician, are required to attend gymnasium classes. At the beginning of the season and several times during the year, each Freshman is subjected to a physical efficiency test.

First Semester, 2 hours—Second Semester, 2 hours.

SECOND YEAR

PRACTICAL OPTICS: This course is given in connection with the Mechanical Optics Laboratory, wherein the student receives practical work in the subject matter given in the classroom. The course includes first, a continuation of analysis of lenses as given during the Freshman year. Description and analysis of flat lenses. Transposition. Description and curves on Toric lenses. Brief discussion of plate glass refraction. Theoretic and practical location of optical centers. Lens marking and axis finding. Prisms and prismatic effect. Cylinders with axes crossed at various angles. Risley prisms.

MECHANICAL OPTICS LABORATORY: Neutralizing. Centering and marking of various kinds of ordinary lenses. The practical use of various types of centering apparatus and axis markers. As the student advances in his work, he is given more complicated lenses for analysis. The course includes simple transposition of lenses, curves on Meniscus and Toric lenses. Ophthalmic lens grinding.

First Semester, 2 hours—Second Semester, 2 hours.

GENERAL PATHOLOGY: General conception and forms of morbid states. Nature, extension and sources of disease. General symptomatology, diagnosis, and prognosis. Duration, course and termination of disease. Agony. Apparent death. Causes of death. General etiology. Predisposing and exciting causes. General pathological anatomy and physiology.

First Semester, 2 hours—Second Semester, 2 hours.

OCULAR ANATOMY AND HISTOLOGY: This course includes Gross Anatomy, Histology and Embryology of the eyeball and its appendages. Microscopical examination of normal tissue. The lectures are illustrated by many lantern slides, models, charts and diagrams. Each student is required to prepare and submit drawings of all structures. To this is added dissection of animal eyes.

First Semester, 4 hours.

CLINICAL PRACTICE: This includes the practical application of tests outlined in the classroom. These tests are made on fellow students. In addition each member of his class is assigned to assist upper classmen in their clinical practice.

First Semester, 2 hours—Second Semester, 2 hours.

THEORETIC OPTOMETRY: History of Optometry, elementary tests and description of various Optometric apparatus. Definition of ordinary terms used in Optometric practice. Value of Optometry to mankind. Description and use of the Ophthalmoscope, trial case, keratometer and skiascope. Subjective refraction. Objective refraction by Static Skiametry. This course is supplemented by clinical observation and practice of students on each other. Much time is devoted to the study of the Ophthalmoscopic picture and the use of practice eyes.

HYGIENE: Introduction to Hygiene and value to Optometry. Sources of infection. Dissemination of infective agents. Contact transmission of diseases. Diseases transmitted solely by contact. Diseases usually transmitted by contact. Diseases frequently transmitted by contact. General measures of disease control. Disinfectants and disinfection. Excreta disposal. Relationship of water to health and disease. Water purification. Production and inspection of milk. Milk as a route of infection. Foodstuffs as routes of infection. Insects as carrying agents of disease. Lower animals as sources of infection. Deficiency diseases. Diseases due to excess. Occupational diseases. Diseases arising from pregnancy, labor and puerperal state. Diseases transmitted from parent to offspring. The hygiene of childhood. Air, heating, and ventilation. Personal hygiene. Public health.

First Semester, 2 hours—Second Semester, 2 hours.

PHYSIOLOGICAL OPTICS: Discussion of the various refractive condiditions of the eye. Effect of these conditions on light. Problems in accommodation. Cardinal points. Optical constants. The reduced eye of Donders. Size of retinal image. Axes and angles of the eye. Preliminary discussion of convergence and measurement of same. Optics of the crystalline lens. The pupil. Entopic phenomena.

First Semester, 3 hours-Second Semester, 3 hours.

PHYSIOLOGICAL OPTICS LABORATORY: A series of experiments on the subject matter covered in the classroom. Each student is required to complete all experiments and record the same in the regular Laboratory book.

First Semester, 2 hours—Second Semester, 2 hours.

THEORETIC OPTICS: Outline of course. Photometry. Laws of single refraction as applied to flat and curved refracting surfaces. Laws of reflection as applied to plane and spherical mirrors. Mirror formulae. Thick mirrors. Related problems. Thin lenses.

First Semester, 3 hours—Second Semester, 3 hours.

THEORETIC OPTICS LABORATORY: A series of experiments on the subject matter covered in the classroom. Each student is required to complete all experiments, and record the same in the regular Laboratory book.

GENERAL AND OCULAR PHYSIOLOGY: Introduction to Physiology -Definition. Application and value to Optometry. The Cell in detail. Metabolism. The Physiology of Muscle. Chemistry of Muscle. Experimental phenomena of muscle and nerve contraction. The phenomena of conduction in nerve fibres. Properties of nerve fibre. The nature of the nerve impulse and the nutritive relations of the nerve fibre and the nerve cell. Physiology and chemistry of the various nutritive systems. Physiology and chemistry of the blood stream. Osmetic Pressure. The pulse and heart beat. The vasometer nerves and their physiological activities. Physiology of the composition and formation of Lymph. The physiology of respiration. Digestion and secretion. Liver and Spleen. Kidney and Skin. Ductless glands. Nutrition and heat production regulation. Vitamins and inorganic salts. Reproduction of both Male and Female. Heredity and Growth. Diffusion and Osmosis. Chemistry and physiology of blood corpuscles. Properties of nerve cells. Reflex actions. The general physiology of cerebrum and its motor functions. Sense and association areas in the cortex. Sympathetic nervous system and sleep. The special senses. The Eye as an Optical instrument. Dioptrics of the Eye. The physiological properties of the Retina. Visual stimuli and visual sensation. Binocular vision. Physiology of the Rhodopsin. Physiological Functions of the Rods and Cones.

THIRD YEAR

First Semester, 3 hours—Second Semester, 3 hours.

OCULAR PATHOLOGY: A study of diseases of the eyeball and its appendages. Manifestations of diseases elsewhere in the body presenting ocular symptoms are considered. The course attempts to classify and give a clear conception of the recognition and prognosis of eye pathology. Many lantern slides and charts are used to illustrate the cases covered in the classroom, and clinical cases presented before the class.

PRACTICAL OPTOMETRY: This course is given in connection with Clinical Optometry. It includes the practical application of the methods of examination and instrumentation outlined in the course in Theoretic Optometry. The reports of the examinations made in the clinic by members of this Class are thoroughly discussed and analyzed.

First Semester, 2 hours—Second Semester, 2 hours.

MECHANICAL OPTICS LABORATORY: A continuation of the work outlined for the Sophomore Year, and later advanced work along the same lines. To this is added the use of apparatus, such as Lloyd Axometer, Lensometer, and Colmoscope, marking and cutting lenses, hand edging, ophthalmic lens grinding.

First Semester, 4 hours—Second Semester, 4 hours.

THEORETIC OPTOMETRY: This course includes a review of the Sophomore Year, and then various forms of ametropia are discussed from a viewpoint of etiology, diagnosis and treatment. In addition, refractive technique and procedure including theory and practice of dynamic skiametry, cross-cylinders, duo-chrome refraction, accommodative and convergence relationship, extra-ocular muscle balance, ductions, measurement of stereopsis and advanced work in visual fields is thoroughly discussed. Special attention is directed to co-ordination of the various refractive procedures with the view of arriving at a diagnosis, method of orthoptic treatment and prism therapy. At the completion of this year's work the student is equipped to conduct a thorough visual survey with the exception of strabismic cases.

First Semester, 3 hours—Second Semester, 3 hours.

CLINICAL PRACTICE: During the first part of this course the Juniors act as assistant clinicians to the Seniors. When they have advanced sufficiently they make examinations under the guidance of Seniors. During the summer months they are required to act as clinicians for a minimum period of two weeks

PHYSIOLOGICAL OPTICS: Principles of Ophthalmometry. Optical System of the Universal, C-I and B. & L. instrument. Optic principles of Skiametry. Optometers. Aberrations. Astigmatism. Optic principles of Ophthalmoscopy. Radiant Energy and the Ocular Tissues. Physio-chemistry of Vision. Stimulus of Vision. Phosphenes. Color Mixing. Photopic and Scotopic luminosity curves.

First Semester, 3 hours—Second Semester, 3 hours.

PHYSIOLOGICAL OPTICS LABORATORY: A series of experiments on the subject matter covered in the classroom. Each student is required to complete all experiments and record the same in the regular laboratory book.

First Semester, 2 hours—Second Semester, 2 hours.

THEORETIC OPTICS: A continuation of the Sophomore course. Also a study of the Optics of various Optical instruments such as the telescope and the microscope, etc. Thick lenses. Thick and thin prisms. Achromatic and Aplanatic systems.

First Semester, 3 hours—Second Semester, 3 hours.

THEORETIC OPTICS LABORATORY: A series of experiments on the subject matter covered in the classroom. Each student is required to complete all experiments and record the same in the regular laboratory book.

First Semester, 2 hours—Second Semester, 2 hours.

PRACTICAL OPTICS: History of the manufacture of glass and of the American Optical and Bausch & Lomb Optical Companies. Lloyd axometer. Frame measurements. Types of frames and mountings to be used in various cases. Zylonite frames.

FOURTH YEAR

OCULAR PATHOLOGY: Continuation of the Pathology as outlined under the Junior year. The relation between Optometrist and Physician. Many lantern slides and charts are used to illustrate the cases covered in the classroom, and clinical cases presented before the class.

First Semester, 2 hours-Second Semester, 2 hours.

PHYSICAL OPTICS: Theories of Light: Newtonian, Huygenian, Electromagnetic, Quantum. Velocity of Light: Romer's method, Michaelson's method. Interference: Discussion of conditions necessary for interference, Young's Pinhole experiment, Fresnel's Bi-prism and Double Mirror experiment. Polarization: Principal types of polarized light, Methods for obtaining polarization, Brewster's Law. Diffraction: Brief discussion of the diffraction pattern, Diffraction gratings and their spectra. Double Refraction: Wave velocities in uniaxial crystalline media, Positive and negative crystals, Special consideration of the Wollaston Prism. Miscellaneous phenomena: Mirage, Rainbow (primary and secondary), Luminescence. Wave tracing: Formation of the reflected image by wave front treatment, Consideration of lenses.

First Semester, 2 hours.

NEUROLOGY: This course includes a consideration of the general anatomy and physiology of the spinal cord and brain, including a review of the embryology of the nervous system. Common neurological diseases, including brain tumor, brain abscess, paralysis, meningitis, etc., are considered.

Second Semester, 2 hours.

APPLIED ANATOMY: A detailed review of Ocular Anatomy and the Ocular Adnexa. Review of Ocular Embryology. Review anatomy of the vital organs, kidneys, brain, lungs.

Second Semester, 2 hours.

PRACTICAL OPTICS: A continuation of frame measurement and adjusting. Lens measure. Lensometer and Vertometer. Tinted lenses. Special kinds of glass and lenses. Colmoscope and other special apparatus. Various kinds and types of bifocals, trifocals. Corrected lenses.

First Semester, 2 hours—Second Semester, 2 hours.

CLINICAL CONFERENCE: This course includes the discussion and analysis of various cases examined in the clinic. The aim of this course is to drill the student in the proper analysis of data, in the treatment of cases by glasses and other methods.

First Semester, 5 hours—Second Semester, 6 hours.

MECHANICAL OPTICS LABORATORY: This course includes a continuation of the course of the Junior Year. Much time is devoted to actual work in facial measurements and adjustments. Edging and mounting. Grinding of bifocals and other special types of lenses.

First Semester, 2 hours—Second Semester, 2 hours.

CLINICAL PRACTICE: As this is a most important course, the student is required to devote the minimum hours to clinical work and likewise to be on call for special clinical work outside the regular hours. All Seniors are clinicians, and make complete examinations of every patient assigned to them. Before graduation each student is required to pass in written reports and thorough analysis of not less than twenty cases examined by him. As a complete written analysis of each case requires several hours, a student is given the above minimum to report though he will have examined many more during the year.

OPTOMETRIC JURISPRUDENCE: This course covers instructions on legal questions that arise in a professional practice. It also includes the business management of a professional practice.

Second Semester, 1 hour.

PHYSICAL OPTICS LABORATORY: A series of experiments on the subject matter covered in the classroom. Each student is required to complete all experiments and report the same in the regular laboratory book.

First Semester, 2 hours.

PHYSIOLOGICAL OPTICS: A study of the various divisions of the sense of sight; light, form and color. Scotopia and Photopia. Various psychological phenomena. A study of various defects of light, form, and color sense. Theories of color vision.

First Semester, 2 hours—Second Semester, 1 hour.

THEORETIC OPTOMETRY: The work of this year is devoted to etiology, diagnosis, and treatment of strabismus. This course is supplemented by class presentation of clinical strabismic patients. Complete discussion of the apparatus concerned with treatment of strabismus is presented. A continuation of the theoretical analysis of the results of each regular and special test in a visual survey is conducted. The psychology, physiology and instrumentation concerned with orthoptic training is presented and practiced in the clinics on outpatients.

The latter part of this year's work is set aside for the discussion of the more recent advances in Optometric instrumentation, procedures, and visual survey and analyses. Patient control is presented to familiarize the student with the problems that may arise when contact is made with them.

First Semester, 3 hours—Second Semester, 3 hours.

The Committee on Courses reserves the right to make such changes in the curriculum as are deemed advisable.

TEXT AND REFERENCE BOOKS

Freshmen

General Anatomy

Text-Book: Gray's Anatomy.

Collateral Reading: Piersol, Human Anatomy; Cunningham, Anatomy.

Physics

Text-Book: Kimball, College Physics. Collateral Reading: Spinney, Physics.

Algebra

Text-Book: Milne & Downey, Algebra; Huntington, Logarithm Book. Collateral Reading: Rietz & Crathorne, Introductory College Algebra.

Geometry

Text-Book: Wentworth, Geometry.

Trigonometry

Text-Book: Wentworth, Plane Trigonometry with Tables.

Biology

Text-Book: Scott, The Science of Biology.

Collateral Reading: Keith, History of the Human Body.

Practical Optics

No Text-Book required.

Equipment For First Year: Trial Frame.

Sophomores

Theoretic Optics

Text-Book: Laurance, General & Practical Optics.

Collateral Reading: Edser, Light for Students; Southall, Mirrors, Lenses

& Prisms; Henker, Theory of Spectacles.

Ocular Anatomy and Histology

Text-Book: Wolff, Anatomy of the Eye & Orbit.

Collateral Reading: Duke-Elder, Ophthalmology; Gray's Anatomy.

Hygiene

No Text-Book required.

Collateral Reading: Boyd, Preventative Medicine; Rosenau, Preventative

Medicine & Hygiene; Meredith, Hygiene.

General and Ocular Physiology

Text-Book: Howell, Physiology.

Collateral Reading: Starling, Physiology.

General Pathology

No Text-Book required.

Collateral Reading: Wagner, Pathology; Barton & Yater, Symptom Diag-

nosis.

Practical Optics

Text-Book: Laurance, General & Practical Optics.

Collateral Reading: Slade, Mechanical Optics.

Theoretic Optometry

Text-Book: Peters, Principles & Practice of Perimetry.

Collateral Reading: Laurance, Visual Optics & Sight Testing; Ryer, Ophthalmometry; Pascal, Modern Retinoscopy; Thorington, Methods of Refraction; Traquair, Introduction to Perimetry; Lloyd, Visual Fields; Arrington, History of Optometry.

Physiological Optics

Text-Book: Zoethout, Physiological Optics.

Collateral Reading: Laurance, Visual Optics & Sight Testing; Tscherning, Physiological Optics.

Equipment For Second Year: Ophthalmoscope Retinoscope set and Trial Frame.

Juniors

Physiological Optics

Text-Book: Zoethout, Physiological Optics; Duke-Elder, Ophthalmology.

Collateral Reading: Tscherning, Physiological Optics; Helmholtz, Physiological Optics; Laurance, Visual Optics & Sight Testing.

Theoretic Optics

Text-Book: Laurance, General & Practical Optics.

Collateral Reading: Edser, Light for Students; Southall, Mirrors, Lenses and Prisms; Henker, Theory of Spectacles.

Practical Optics

Text-Book: Obrig, Modern Ophthalmic Lenses.

Collateral Reading: Laurance, General & Practical Optics; Slade, Mechanical Optics.

Theoretic Optometry

Text-Books: Laurance, Visual Optics & Sight Testing; Peters, Extra Ocular Muscles; Maddox, Extra Ocular Muscles.

Collateral Reading: Sheard, Dynamic Skiametry; Atkinson & Woll, Dynamic Skiametry; Brombach, Visual Field Studies; Swann, Ocular Muscles.

Ocular Pathology

Text-Book: Parsons, Diseases of the Eye.

Collateral Reading: May, Diseases of the Eye; Oatman, Atlas of Fundus Diseases.

Equipment For Third Year: Kit of Tools.

Seniors

Physical Optics

Text-Book: Laurance, General & Practical Optics.

Collateral Reading: Edser, Light for Students.

Physiological Optics

Text-Book: Zoethout, Physiological Optics; Duke-Elder, Ophthalmology.Collateral Reading: Tscherning, Physiological Optics; Helmholtz, Physiological Optics; Laurance, Visual Optics and Sight Testing.

Neurology

No Text-Book required.

Collateral Reading: Wicheler, Text-book of Neurology.

Ocular Pathology

Text-Book: Parsons, Diseases of the Eye.

Collateral Reading: Fuchs, Ophthalmology.

Applied Anatomy

Text-Book: Duke-Elder, Ophthalmology.

Collateral Reading: Wolff, Anatomy of the Eye and Orbit; Parsons, Diseases of the Eye; Gray, Anatomy.

Practical Optics

Text-Book: Obrig, Modern Ophthalmic Lenses.

Collateral Reading: Laurance, General and Practical Optics; Slade, Mechanical Optics.

Theoretic Optometry

Text-Books: Duke-Elder, Ophthalmology; Laurance, Visual Optics and sight testing.

Collateral Reading: Peckham, The Modern Practice of Binocular Imbalance; Robinson, Ocular Muscles.

The Committee on Courses reserves the right to make additions and changes in the text-books as is deemed advisable.

STUDENT ACTIVITIES

Students of professional schools do not have much time for sports that require their attendance during the regular school hours. However, there are several extra-curricular activities which occupy the spare time of the student and help to make his life agreeable. Among these are the fraternity, basketball, the orchestra, and class social activities. Class dances are annual features.

Special arrangement with the Young Men's Christian Association of Boston gives students the advantage of gymnasium and swimming pool facilities. The Y. M. C. A. is located nearby.

STUDENTS' ASSOCIATION

The Students of the School have formed an organization known as the Pi Omicron Sigma fraternity. Students of the School in good standing are eligible for membership. The purpose of the organization is to further the interests of the student body and develop the spirit of the School.

The program includes discussion of current topics by leading business and professional men.

INSPECTION TOUR

Once a year the various departments of the American Optical Company at Southbridge, Massachusetts, are inspected by the students. This trip is of great value as the students are thus enabled to see the materials and actual manufacture of the articles used in their practice. The American Optical Company furnishes a generous luncheon to all that attend.



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